U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE

HEARING CHARTER

The Future of NPOESS: Results of the Nunn-McCurdy Review of NOAA's Weather Satellite Program

June 8, 2006
2:30 p.m. to 4:30 p.m.
2318 Rayburn House Office Building

Purpose

The key program to build new weather satellites for both military and civilian forecasting has just undergone a statutorily required review because the program was more than 25 percent over budget. The program, the National Polar-orbiting Operational Environmental Satellite System (NPOESS), is jointly run by the Department of Defense (DOD), the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA), with DOD and NOAA evenly splitting the costs, except for the costs of providing one preliminary satellite, which are being borne by NASA.

The program has a troubled history of cost increases and schedule delays and it has been the subject of several previous Science Committee hearings, most recently a hearing on May 11 on a report by the Department of Commerce Inspector General (IG), which raised concerns about NOAA's program management and award fees paid to the prime contractor, Northrop Grumman.

The June 8 hearing will focus on the results of the statutorily required review, known as a Nunn-McCurdy review. Under the law, any DOD-funded program that is more than 25 percent over budget must be reviewed to see if it should be continued and if so, in what manner.

The review, which was carried out under the auspices of DOD by all three NPOESS agencies, determined that the program should be continued, but the number of satellites and their capabilities will be scaled back. The NPOESS agencies argue that the scaled back program will be able to capture all weather data collected by current satellites and will minimize the chance of having gap periods when a full complement of satellites is not flying.

The revamped program is estimated to have acquisition (as opposed to operational) costs of $11.1 billion ($11.5 billion if launch costs are included). That is an increase of about 50 percent, or $3.7 billion over the most recent official baseline of $7.4 billion issued in 2004. The original cost estimate for the program as configured before the Nunn-McCurdy review, which was issued in 2000, was $6.5 billion. No additional funds beyond those already projected will be needed until fiscal year (FY) 2010, according to the three NPOESS agencies. The first NPOESS satellite would be launched in 2013. The 2004 estimate assumed a first launch in 2010; the 2000 estimate assumed a launch in 2008. The Committee is seeking background materials to better evaluate and understand these estimates.

Witnesses

Dr. Ronald Sega, Undersecretary of the Air Force
Vice Admiral Conrad C. Lautenbacher (ret.), Administrator, National Oceanic and Atmospheric Administration
Dr. Michael Griffin, Administrator, National Aeronautics and Space Administration

Overarching Questions

The hearing will address these overarching questions:

1. Are the new launch dates and cost estimate for NPOESS realistic?
2. What capabilities are lost in the new NPOESS program?
3. Are critical weather forecasting capabilities maintained and/or improved in the new NPOESS program?
4. What are the underlying assumptions (technical, cost, and schedule) that support the new NPOESS program design?
5. Are there better alternatives than the one chosen in the Nunn-McCurdy review, especially for fulfilling civilian needs such as climate science?

Background

Basic background on NPOESS can be found in the Committee's charters from November 16, 2005 and May 11, 2006, available at: http://www.house.gov/science/hearings/index.htm .

Nunn-McCurdy Review

The NPOESS contract follows DOD acquisition procedures. As a result, it is subject to the Nunn-McCurdy provisions of the DOD acquisition law (10 U.S.C 2433). Under the Nunn-McCurdy law, if a program's costs increase more than 25 percent, the Secretary of Defense (or the Secretary of the appropriate branch of the military) must certify the program in a period of time specified under the law or no additional funds can be obligated for the program. Certification requires a written justification that:

(1) The program is essential to national security;
(2) There is no alternative the can provide equal capability at less cost;
(3) New estimates of costs have been developed and are reasonable; and
(4) Management structure is adequate to control costs.

On January 11, 2006, the Secretary of the Air Force notified Congress that the NPOESS program would exceed the 25 percent Nunn-McCurdy notification threshold (meaning that acquisition costs would increase by at least $1.85 billion over the program's most recent cost estimate of $7.4 billion). This triggered a formal certification process that effectively superseded any previous independent reviews as well as pending program direction decisions about mitigating cost overruns and schedule delays.

To address each of the four criteria for the NPOESS program, DOD established four Independent Program Teams, each assigned to look at one of the criteria. These teams consisted of representatives of each of the agencies involved in NPOESS (DOD, NOAA, and NASA) and other experts on both satellite acquisition and on the technical capabilities of satellites. The Nunn-McCurdy certification process for NPOESS represents the first time an interagency program has undergone a Nunn-McCurdy review. For FY2006, the NPOESS program put an interim plan in place to continue building key components of the program pending a Nunn-McCurdy decision. Thus far under the new plan, the program is mostly on schedule and within cost estimates.

On June 5, 2006, the Undersecretary of Defense for Acquisition, Technology and Logistics notified Congress that he is certifying NPOESS with the following major changes:

- New total program acquisition costs are $11.5 billion to have polar satellite coverage by NPOESS through 2026. This is a $3.7 billion increase over the most recent official total acquisition budget of $7.4 billion adopted in 2004. It is a $4.6 billion increase over the original program estimates of $6.5 billion.

- The NPOESS program will consist of four satellites, rather than six. The polar satellites basically are designed to operate in groups of three to cover the earth in three separate orbits. With the reduction to four satellites, we will rely on European satellites (with the acronym METOP) for one orbit. In the past, the U.S. has been concerned about getting all the data we need from European satellites in a form that is useful to U.S. scientists. It's not entirely clear how all of these concerns will be addressed, although the concerns were more at DOD than at NOAA.

- The first NPOESS satellite will launch in 2013. It was most recently supposed to launch in 2010. The preliminary test satellite, known as NPP and being built by NASA, will launch in late 2009 rather than this year.

- The NPOESS program will drop five sensors, three of them related to climate research. (The satellite itself will be designed in such a way that if money is found elsewhere to pay for the sensors they could be placed on the satellite, but finding money elsewhere seems unlikely.)

- Work on one of the key weather sensors that is behind schedule, known as CMIS (pronounced *sea-miss*), will be discontinued and instead the program will begin development of a new sensor that would have some or all of CMIS's intended capabilities. That will not be ready for the initial NPOESS satellite. Instead, the U.S. will have to rely temporarily on the Europeans for data that was to be collected by CMIS, including ocean wind speeds.

- Management reforms, including those recommended by the Commerce IG, will be implemented. The Executive Committee (EXCOM), which includes the three hearing witnesses, will meet at least quarterly and the Northrop-Grumman contract will be renegotiated.

- The changes will require renegotiating the contract with the prime contractor. This contract renegotiation will provide an opportunity to change the award fee structure of the NPOESS contract to conform to recommendations from both GAO and the Department of Commerce IG. The contract renegotiation could also result in increased costs above the $11.5 billion number certified by DOD.

Witness Questions:
The witnesses were asked to address the following questions in their testimony.

Dr. Ronald Sega, Undersecretary of the Air Force

Please describe the results of the Nunn-McCurdy review of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and its implications for the United States Air Force, including information that addresses the following questions:

1. In what ways, if any, does the Nunn-McCurdy decision change the capabilities and launch schedule of the NPOESS program?
2. To what extent does the Nunn-McCurdy decision prevent a potential gap in the National Oceanic Atmospheric Administration's (NOAA) polar-orbiting weather satellite coverage? If a coverage gap in NOAA satellites were to occur, what are the implications for the Air Force and/or the Department of Defense weather forecasting capabilities? What are the contingency plans for a gap in polar satellite coverage?
3. How does the Nunn-McCurdy decision incorporate the recommendations of the Department of Commerce Inspector General regarding NPOESS program oversight and contract award fees?

Vice Admiral Conrad C. Lautenbacher (ret.), Administrator, National Oceanic and Atmospheric Administration

Please describe the results of the Nunn-McCurdy review of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and its implications for the National Oceanic and Atmospheric Administration (NOAA), including information that addresses the following questions:

1. In what ways, if any, does the Nunn-McCurdy decision change the capabilities and launch schedule of the NPOESS program?
2. To what extent does the Nunn-McCurdy decision prevent a potential gap in the NOAA's polar-orbiting weather satellite coverage? If a coverage gap in NOAA satellites were to occur, what are the implications for NOAA's weather forecasting capabilities? What are the contingency plans for a gap in polar satellite coverage?
3. How does the Nunn-McCurdy decision incorporate the recommendations of the Department of Commerce Inspector General regarding NPOESS program oversight and contract award fees?

Dr. Michael Griffin, Administrator, National Aeronautics and Space Administration

Please describe the results of the Nunn-McCurdy review of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and its implications for the National Aeronautics and Space Administration (NASA), including information that addresses the following questions:

1. In what ways, if any, does the Nunn-McCurdy decision change the capabilities and launch schedule of the NPOESS program?
2. To what extent does the Nunn-McCurdy decision prevent a potential gap in the National Oceanic Atmospheric Administration's (NOAA) polar-orbiting weather satellite coverage? If a coverage gap in NOAA polar-orbiting satellites were to occur, what would be the implications for NASA and NASA-funded scientists? Would a gap require NASA to consider launching any additional satellites of its own or to change launch plans for any of its satellites?
3. How does the Nunn-McCurdy decision incorporate the recommendations of the Department of Commerce Inspector General regarding NPOESS program oversight and co
4. How does the Nunn-McCurdy decision incorporate the recommendations of the Department of Commerce Inspector General regarding NPOESS program oversight and contract award fees?